

CLAIMS

1. A method of dynamically setting a rise-over-thermal (ROT) threshold in a communication system, the method comprising:

determining whether an outage of communication has occurred;

increasing the ROT threshold by a predetermined increment if the outage has not occurred; and

decreasing the ROT threshold by a predetermined decrement if the outage has occurred.

2. The method of claim 1, further comprising setting a reverse activity bit (RAB) to 1 if the outage has occurred.

3. The method of claim 1, further comprising initially setting the ROT threshold to a predetermined minimum ROT threshold.

4. The method of claim 1, further comprising:

determining whether the ROT threshold is equal to a predetermined maximum threshold prior to the step of increasing the ROT threshold; and

maintaining the ROT threshold at the predetermined maximum threshold if the ROT threshold is

equal to the predetermined maximum threshold and the outage has not occurred.

5. The method of claim 1, wherein the step of determining whether the outage of communication has occurred comprises:

determining which one of a plurality of access terminals is transmitting data to a base transceiver station at a lowest data rate;

determining whether a set of data received from the access terminal transmitting at the lowest data rate has an error; and

setting a warning flag for the access terminal transmitting at the lowest data rate if the set of data received from the access terminal transmitting at the lowest data rate has an error.

6. The method of claim 5, wherein the step of determining whether the outage of communication has occurred further comprises:

determining whether a second set of data received from the access terminal transmitting at the lowest data rate has an error; and

declaring the outage for the access terminal transmitting at the lowest data rate if the second set of

data received from the access terminal transmitting at the lowest data rate has an error.

7. The method of claim 6, wherein the step of determining whether the outage of communication has occurred further comprises eliminating the warning flag for the access terminal transmitting at the lowest data rate if the second set of data received from the access terminal transmitting at the lowest data rate does not have an error.

8. The method of claim 5, wherein the step of determining whether the set of data received from the access terminal transmitting at the lowest data rate has an error comprises determining whether a packet received from the access terminal transmitting at the lowest data rate has a frame error.

9. The method of claim 8, wherein the step of determining whether the outage of communication has occurred further comprises declaring the outage for the access terminal transmitting at the lowest data rate if two consecutive packets received from the access terminal transmitting at the lowest data rate have frame errors.

10. The method of claim 5, further comprising determining whether an outage has occurred at another one of the access terminals.

11. The method of claim 5, further comprising:
determining the number of access terminals with warning flags in a given sector communicating with the base transceiver station; and
declaring an outage for the sector if the number of access terminals with the warning flags exceeds a predetermined number.

12. A base transceiver station apparatus, comprising:
means for receiving data in a plurality of packets from a plurality of access terminals; and
means for dynamically setting a rise-over-thermal (ROT) threshold for the access terminals.

13. The apparatus of claim 12, wherein the means for dynamically setting the ROT threshold comprises:
means for determining whether an outage of communication has occurred at one of the access terminals;
means for increasing the ROT threshold by a predetermined increment if the outage has not occurred; and
means for decreasing the ROT threshold by a predetermined decrement if the outage has occurred.

14. The apparatus of claim 13, further comprising means for setting a reverse activity bit (RAB) to 1 if the outage has occurred.

15. The apparatus of claim 13, wherein the means for dynamically setting the ROT threshold further comprises means for initially setting the ROT threshold to a predetermined minimum ROT threshold.

16. The apparatus of claim 13, wherein the means for dynamically setting the ROT threshold further comprises:

means for determining whether the ROT threshold is equal to a predetermined maximum threshold prior to increasing the ROT threshold; and

means for maintaining the ROT threshold at the predetermined maximum threshold if the ROT threshold is equal to the predetermined maximum threshold and the outage has not occurred.

17. The apparatus of claim 13, wherein the means for determining whether the outage of communication has occurred comprises:

means for determining which one of the access terminals is transmitting data at a lowest data rate;

means for determining whether a set of data received from the access terminal transmitting at the lowest data rate has an error; and

means for setting a warning flag for the access terminal transmitting at the lowest data rate if the set of data received from the access terminal transmitting at the lowest data rate has an error.

18. The apparatus of claim 17, wherein the means for determining whether the outage of communication has occurred further comprises:

means for determining whether a second set of data received from the access terminal transmitting at the lowest data rate has an error; and

means for declaring the outage for the access terminal transmitting at the lowest data rate if the second set of data received from the access terminal transmitting at the lowest data rate has an error.

19. The apparatus of claim 18, wherein the means for determining whether the outage of communication has occurred further comprises means for eliminating the warning flag for the access terminal transmitting at the lowest data rate if the second set of data received from the access terminal transmitting at the lowest data rate does not have an error.

20. The apparatus of claim 17, wherein the means for determining whether the set of data received from the access terminal transmitting at the lowest data rate has an error comprises means for determining whether a packet received from the access terminal transmitting at the lowest data rate has a frame error.

21. The apparatus of claim 20, wherein the means for determining whether the outage of communication has occurred further comprises means for declaring the outage for the access terminal transmitting at the lowest data rate if two consecutive packets received from the access terminal transmitting at the lowest data rate have frame errors.

22. The apparatus of claim 13, wherein the means for dynamically setting the ROT threshold further comprises means for determining whether an outage has occurred at another one of the access terminals.

23. The apparatus of claim 13, wherein the means for dynamically setting the ROT threshold further comprises:
means for determining the number of access terminals with warning flags in a given sector; and

means for declaring an outage for the sector if the number of access terminals with the warning flags exceeds a predetermined number.

24. A computer readable medium embodying a method of dynamically setting a rise-over-thermal (ROT) threshold in a communication system, the method comprising:

determining whether an outage of communication has occurred;

increasing the ROT threshold by a predetermined increment if the outage has not occurred; and

decreasing the ROT threshold by a predetermined decrement if the outage has occurred.

25. The computer readable medium of claim 24, wherein the method further comprises setting a reverse activity bit (RAB) to 1 if the outage has occurred.

26. The computer readable medium of claim 24, wherein the method further comprises initially setting the ROT threshold to a predetermined minimum ROT threshold.

27. The computer readable medium of claim 24, wherein the method further comprises:

determining whether the ROT threshold is equal to a predetermined maximum threshold prior to the step of increasing the ROT threshold; and

maintaining the ROT threshold at the predetermined maximum threshold if the ROT threshold is equal to the predetermined maximum threshold and the outage has not occurred.

28. The computer readable medium of claim 24, wherein the step of determining whether the outage of communication has occurred comprises:

determining which one of a plurality of access terminals is transmitting data to a base transceiver station at a lowest data rate;

determining whether a set of data received from the access terminal transmitting at the lowest data rate has an error; and

setting a warning flag for the access terminal transmitting at the lowest data rate if the set of data received from the access terminal transmitting at the lowest data rate has an error.

29. The computer readable medium of claim 28, wherein the step of determining whether the outage of communication has occurred further comprises:

determining whether a second set of data received from the access terminal transmitting at the lowest data rate has an error; and

declaring the outage for the access terminal transmitting at the lowest data rate if the second set of data received from the access terminal transmitting at the lowest data rate has an error.

30. The computer readable medium of claim 29, wherein the step of determining whether the outage of communication has occurred further comprises eliminating the warning flag for the access terminal transmitting at the lowest data rate if the second set of data received from the access terminal transmitting at the lowest data rate does not have an error.

31. The computer readable medium of claim 28, wherein the step of determining whether the set of data received from the access terminal transmitting at the lowest data rate has an error comprises determining whether a packet received from the access terminal transmitting at the lowest data rate has a frame error.

32. The computer readable medium of claim 31, wherein the step of determining whether the outage of communication has occurred further comprises declaring the outage for the

access terminal transmitting at the lowest data rate if two consecutive packets received from the access terminal transmitting at the lowest data rate have frame errors.

33. The computer readable medium of claim 28, wherein the method further comprises determining whether an outage has occurred at another one of the access terminals.

34. The computer readable medium of claim 28, wherein the method further comprises:

determining the number of access terminals with warning flags in a given sector communicating with the base transceiver station; and

declaring an outage for the sector if the number of access terminals with the warning flags exceeds a predetermined number.